

EXHIBIT 21

"There has been ample opportunity for Congress to pass a bipartisan immigration bill that would strengthen our borders, improve the legal immigration system, lift millions of people out of the shadows so they are paying taxes and getting right by the law I indicated to Speaker Boehner several months ago that if, in fact, Congress failed to act, I would use all the lawful authority that I possess to try to make the system work better. And that's going to happen." President Barak Obama, Burma, November 13, 2014

From the Shadows to the Mainstream: Estimating the Economic Impact of Presidential Administrative Action and Comprehensive Immigration Reform

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1. Introduction and Executive Summary

President Obama and the Congress stand at a historic crossroad that could significantly change decades of undocumented status for millions of immigrant workers, while also providing significant increases in output, employment, earnings and taxes, benefiting the U.S. economy as a whole. Acting within his legal and constitutional authority, President Obama can act to broaden the scope of temporary beneficiaries through expanding programs such as DACA (Deferred Action for Childhood Arrivals) instituted in 2012 and renewed in 2014. Such Presidential action would not impede Congress from voting on more permanent and comprehensive immigration reform (CIR) legislation, which in fact would generate an even greater positive impact for the U.S. economy.

In anticipation of such momentous actions, it is important that policy makers and the general public understand the dimensions of the economic impact of alternative scenarios of action open to the President and Congress. Towards these ends, this paper will provide estimates based on a variety of methodologies for the following policy alternatives:

¹ A special thank you to NAID Center Staff Patrick Pastor, Juan Contreras, Francisco Lopez and Verenice Garcia for all of their work on this report.

1. The DACA program's economic impact, compared to the impact of Congressional passage of the Dream Act.
2. Economic impact of alternative administrative action scenarios based on scaling up the size of the benefited population.
3. Economic impact of congressional passage of a Comprehensive Immigration Reform bill approved by the U.S. Senate in 2013.

1) In the two years since the President created DACA through administrative action, the program has had and will continue to have a positive economic impact on its recipients as well as the economy as a whole. However, we find that these positive outcomes are less than what would have been experienced had congress enacted the DREAM act, which was the legislative equivalent of DACA.² Our key findings related to DACA are:

- The DACA program of 2012-2014 appears to have spurred extraordinary growth in the earnings of DACA beneficiaries. According to the results of two recent surveys, this wage growth surpassed 240%, a number that far exceeds the expectations in the literature.
- Using much more conservative earnings growth assumptions we estimate that legalizing and educating all eligible DACA applicants (1.23 million) would generate \$1.7 trillion in cumulative earnings over forty years (the average length of a professional career).
- Expanding the pool of DACA beneficiaries to individuals who are currently too young to enroll in the program, but meet all of the other requirements (for a total population of 1.7 million), would result in cumulative earnings of \$2.4 trillion over 40 years.
- Congressional passage of the DREAM would allow for the inclusion of 2.15 million potential beneficiaries who would earn an estimated income of \$3.7 trillion over the course of 40 years.

2) The President has the legal authority to build upon DACA's success and institute a variety of deferred action programs that would affect the earning potential³ of millions of undocumented immigrants who are already working in the U.S. Our key findings⁴ related to expanding deferred action indicate that:

² Raul Hinojosa, Paule Cruz Takash, et al., *No DREAMers Left Behind: The Economic Potential of DREAM Act Beneficiaries* (Los Angeles: UCLA NAID Center, 2010).

³ Throughout this report we use the alternative administrative action eligible population estimates of Randy Capps, Marc R. Rosenblum, and James D. Bachmeier, *Executive Action for Unauthorized Immigrants: Estimates of the Populations That Could Receive Relief* (Washington DC: Migration Policy Institute, September 2014). For estimates of undocumented employment by sector we use Passel, Jeffrey, and D'Vera Cohn. *A Portrait of Unauthorized Immigrants in the United States* (Washington, DC: Pew Research Center, 2009).

⁴ Analysis of the economic impact of administrative action scenarios is based upon the methodology used in Raul Hinojosa and Marshall Fitz. *Revitalizing the Golden State: What Legalization over Deportation Could Mean to California and Los Angeles County*. (Washington, DC: Center for American Progress, April 2011).

- All scenarios for increasing the scope of potential beneficiaries would generate significant economic growth, benefiting not only immigrants, but also the U.S. economy as a whole. These positive economic outcomes increase in proportion to the number and characteristics of immigrants to whom deferred action is extended.
- If deferred action were extended to the between 500,000 and one million undocumented immigrants who are parents or legal guardians of DACA recipients, it would generate a \$1.39 billion increase in labor income; 32,000 jobs through an increase in direct, indirect and induced employment; and \$511 million in new tax revenue (estimated as a two year short term impact). The \$42 billion in GDP that these undocumented workers add to the economy would also be formalized, ending the technical illegality of the value they currently add to U.S. economy.
- If deferred action were extended to the 3.7 million undocumented immigrants who are parents or legal guardians of minors that are U.S. citizens, legal permanent residents (LPRs), or are DACA eligible, it would generate a short term \$6.8 billion increase in labor income, more than 160,000 jobs and \$2.5 billion in new tax revenue. It would also formalize the \$210.2 billion in value that this population adds to the economy, thus ending the technical illegality of their employment and production.
- If deferred action were extended to the 6.6 million undocumented immigrants who have been present in the U.S. for at least ten years, it would generate a short-term \$12.3 billion increase in labor income, more than 289,000 jobs and \$4.5 billion in new tax revenue. \$379 billion of GDP would also be legalized and formalized as a result of granting deferred action to this population.
- If deferred action were extended to the 9.7 million undocumented immigrants who have been present in the U.S. for at least five years, it would generate a short-term \$18 billion increase in labor income, more than 422,900 jobs and \$6.6 billion in new tax revenue. This would also formalize \$553.8 billion dollars in GDP, bringing it out of the shadows of technical illegality.

3) While, the potential economic benefits of deferred action are significant, they can be enhanced though the passing of a permanent comprehensive immigration reform bill. Our key findings⁵ related to the economic impact of CIR are:

- The CIR legislation passed by the senate, SB 744, has two key components that determine its economic impact. First, how the bill addresses the undocumented

⁵ These findings are based upon: Raul Hinojosa, *Raising the Floor for American Workers: The Economic Benefits of Comprehensive Immigration Reform* (Center for American Progress and Immigration Policy Center, January 2010). Raul Hinojosa, *The Economic Benefits of Comprehensive Immigration Reform* (CATO Institute, Winter 2012). These findings align closely with the methodology and conclusions of: Congressional Budget Office, *The Economic Impact of S. 744, the Border Security, Economic Opportunity, and Immigration Modernization Act* (Washington, DC: June 18, 2013)

population that is currently living in the US. Second, the legal framework that it creates to absorb future immigration flows.

- A CIR bill that grants legal status to all current immigrants would generate a short term \$63.19 billion increase in labor income, more than 1.4 million jobs and \$23.2 billion in new tax revenue.
- A CIR bill would also create legal avenues for new immigrants projected to be needed by the U.S. economy and would generate over \$1.5 trillion in additional GDP growth over the next ten years.

This report will first review the available data for comparing the size and economic contributions of the undocumented populations that would be affected by various immigration reform policy alternatives, including the DACA program, a series of proposed administrative action scenarios and comprehensive immigration reform. Second, we will review the methodological approaches used to analyze the impact of DACA (dynamic human capital growth modeling), alternative administrative actions (short term input-output IMPLAN modeling) and CIR (long term CGE modeling and short term input-output IMPLAN modeling). Third, the report will estimate and compare the economic impact of administrative action that President Obama has already taken (DACA), the alternative forms that future administrative action might take, as well as the projected economic impact of future comprehensive immigration reform scenarios.

Researchers have used a number of methodologies to analyze the economic impact of immigration policy reforms. The optimal choice of methodologies used depends on the nature and characteristics of the policy initiative in question. In this report, we will analyze results derived from three of these methodologies. The first methodological tool, computable general equilibrium (CGE) modeling, is especially useful for predicting the dynamic effects of an economic shock over time and at the multi-sectoral level.⁶ A second tool, input output modeling (IMPLAN), is more useful for analyzing the short-term impact of a labor market policy shift within the current structure of the economy.⁷ Third, we will discuss a methodology that we have devised specifically to adjust our IMPLAN-based findings so that they better reflect the unique characteristics of immigration reforms that are directed towards childhood arrivals.⁸ Specifically, this third methodology was devised to measure the economic impact of reforms that explicitly encourage educational attainment and affect a younger demographic.

It is critically important that policy makers and the general public understand the positive economic impact of administrative action, while also recognizing that these benefits are dwarfed by the potential impact of comprehensive immigration reform, and especially by a reform bill that includes a path to citizenship. Drawing on this analysis we can discern what lessons can be

⁶ See: Hinojosa, *The Economic Benefits of Comprehensive Immigration Reform*.

⁷ See: Hinojosa, Raul and Marshall Fitz. *Revitalizing the Golden State: What Legalization over Deportation Could Mean to California and Los Angeles County*. Washington, DC: Center for American Progress, April 2011.

⁸ See: Hinojosa and Takash, *No DREAMers Left Behind*.

learned from this policy comparison, and provide policy recommendations for maximizing the effectiveness of administrative action going forward.

2. Data On Undocumented Population and their Economic Contributions

This section compares the size and economic contributions of the undocumented populations that can be affected by alternative immigration reform policies. These policy alternatives are CIR, a series of proposed administrative actions, and the DACA program.

Table 1

Population for Reform Scenario	Population	Employed Population‡
Total Population	11,700,000*	8,300,000
5 Years in the U.S.	9,696,000*	6,762,000
10 Years in the U.S.	6638000*	4,629,000
Parents of Citizens, LPRs, DACA Eligible	3680000*	2,566,000
Parents of DACA Recipients	750000†	523,000

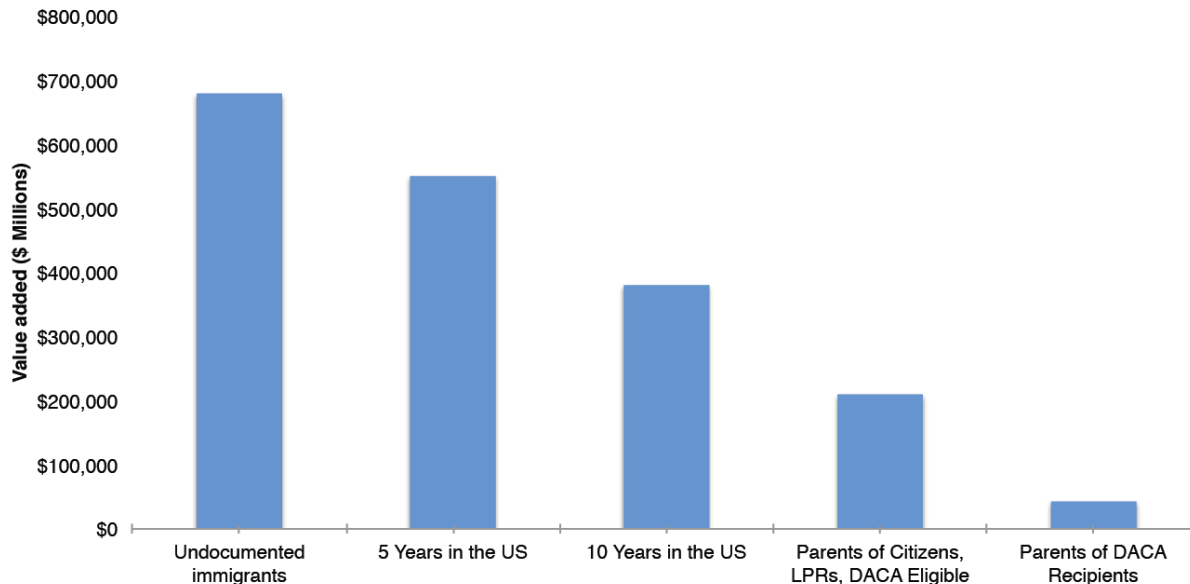
* Population Estimates: Randy Capps, Marc R. Rosenblum, and James D. Bachmeier, *Executive Action for Unauthorized Immigrants: Estimates of the Populations That Could Receive Relief* (Washington DC: Migration Policy Institute, September 2014).

† Population Estimate: Coalition for Humane Immigrant Rights of Los Angeles CHIRLA, "CHIRLA Memo to DHS Secretary," (2014).

‡ Ratio of Total Undocumented to Employed Undocumented: Jeffrey Passel and D'Vera Cohn, *A Portrait of Unauthorized Immigrants in the United States* (Pew Research Center, 2009).

Figure 1

Value Added by Reform Scenario



The methodology used for this economic impact analysis is described in: Raul Hinojosa and Marshall Fitz. *Revitalizing the Golden State: What Legalization over Deportation Could Mean to California and Los Angeles County*. (Washington, DC: Center for American Progress, April 2011).

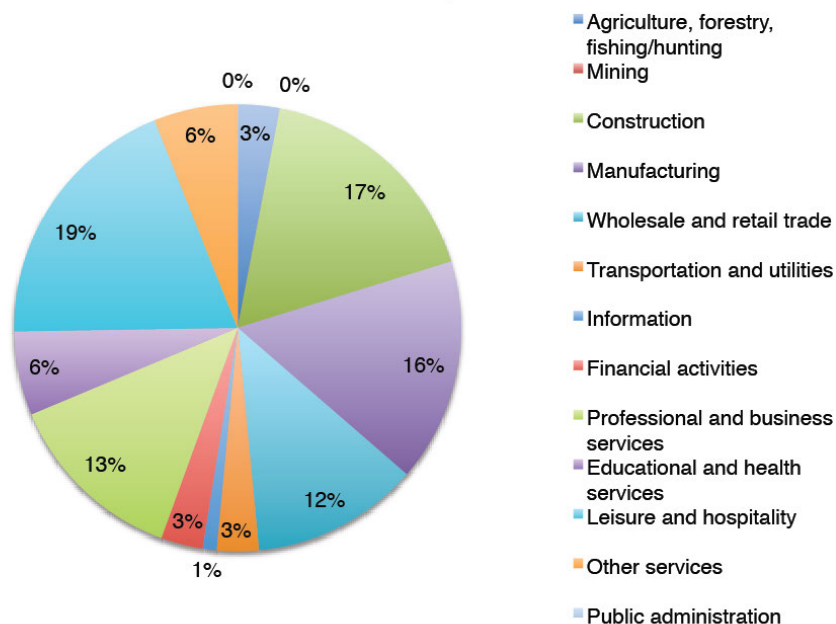
The source of the methodology is: IMPLAN 2009, <http://implan.com>

The population data is derived from: Randy Capps, Marc R. Rosenblum, and James D. Bachmeier, *Executive Action for Unauthorized Immigrants: Estimates of the Populations That Could Receive Relief* (Washington DC: Migration Policy Institute, September 2014).

AND Coalition for Humane Immigrant Rights of Los Angeles CHIRLA, "CHIRLA Memo to DHS Secretary," (2014).

Figure 2

Undocumented Workers by Sector



Karina Fortuny, Randy Capps, and Jeffrey S. Passel, *The Characteristics of Unauthorized Immigrants in California, Los Angeles County, and the United States* (Washington, DC: The Urban Institute, March 2007).

Comprehensive Immigration Reform

There are an estimated 11.7 million undocumented immigrants living in the US of which 8.3 million are employed (see table 1). For our analysis of CIR, and throughout the rest of the paper, we have used the MPI's undocumented population estimates, and the Pew Hispanic Center's estimates of the ratio of total undocumented immigrants to employed undocumented immigrants.⁹

Figure 1 shows that the estimated total 8.3 million undocumented workers contribute over \$679 billion in total value added per year to the U.S. economy as a whole. While we assume that the total undocumented population would be subject to comprehensive immigration reform legislation, and that the total affected population would be subject to administrative actions, in this report we focus on the *employed* undocumented population in order to determine the economic contributions and impact of alternative policies (see table 1). We use CGE and IMPLAN modeling to quantify this impact, and these methodologies require estimating the ratio of employed to total undocumented workers, as well as the distribution of immigrants by sector (see figure 2), as estimated by the Urban Institute's Fortuny, Capps and Passel.¹⁰

Administrative Action

The economic impact of any new Presidential administrative action program will be a function of the criteria for eligibility that is chosen to determine how many undocumented immigrants will qualify. The Obama administration has a great deal of flexibility in terms of shaping the program, so for the sake of comparison we have analyzed the economic impact of a broad set of scenarios. These scenarios are:

1. Individuals present in the U.S. for at least five years (9.7 million - MPI)
2. Individuals present in the U.S. for at least ten years (6.6 million - MPI)
3. Parents of minor U.S. citizens, LPRs or DACA eligible (3.6 million - MPI)
4. Parents or legal guardians of DACA recipients (750,000 - CHIRLA)

For the first three of these scenarios, the Migration Policy Institute (MPI) estimated the general range of eligible applicants,¹¹ while the Coalition for Humane Immigrant Rights of Los Angeles (CHIRLA) estimated the range of eligible applicants for the fourth scenario (see table 1).¹²

⁹ Population Estimate: Capps, Rosenblum, and Bachmeier, *Executive Action for Unauthorized Immigrants*. Ratio of Undocumented to Employed Undocumented: Passel and Cohn, *A Portrait of Unauthorized*.

¹⁰ Karina Fortuny, Randy Capps, and Jeffrey S. Passel, *The Characteristics of Unauthorized Immigrants in California, Los Angeles County, and the United States* (Washington, DC: The Urban Institute, March 2007).

¹¹ Randy Capps, Marc R. Rosenblum, and James D. Bachmeier, *Executive Action for Unauthorized Immigrants: Estimates of the Populations That Could Receive Relief* (Washington DC: Migration Policy Institute, September 2014).

¹² Coalition for Humane Immigrant Rights of Los Angeles CHIRLA, "CHIRLA Memo to DHS Secretary," (2014).

The populations that would be affected by administrative action currently make important contributions to the US economy, despite the illegality of their employment. As figure 1 shows, the total undocumented populations produces more than \$679.7 billion dollars in GDP annually, while those who have been present in the U.S. for at least five years add more than \$553 billion in value. Undocumented immigrants present in the U.S. for at least ten years add \$379 billion in GDP each year, while Parents of minors that are US citizens, LPRs or DACA eligible add \$210 billion. In addition, the parents or legal guardians of DACA recipients add \$42 billion in GDP annually. Providing these populations with legal work authorization would formalize the value they add to the economy, while bringing their productivity and income out of the shadows of technical illegality.

DACA

The DACA program of 2012 has a number of requirements that limit the size of the eligible population. The program requires applicants to have come to the US before the age of sixteen, to have been present in the country as of June 15, 2012, and to have lived here continuously for at least five years before that date. In addition, they must be between the ages of fifteen and thirty-one at the time of their application, and either have received a high school diploma or its equivalent, be currently enrolled in school, or be honorably discharged veterans of the US armed forces or Coast Guard. They must not have a serious criminal record.¹³

Table 2

DACA Population Data

Immediately Eligible	1,200,000
Did Not Meet Age Requirement	500,000
DACA Beneficiaries To-Date	587,000

Jeanne Batalova et al., *DACA At The Two-Year Mark: A National and State Profile of Youth Eligible and Applying for Deferred Action* (Washington DC: Migration Policy Institute, August 2014).

Table 2 shows that to date over 1.2 million childhood arrivals meet these requirements, while and additional 500,000 meet all but the age requirement, for a total of 1.7 million eligible and soon to be eligible DACA applicants. So far 587,366 applicants have received the protections afforded by DACA.¹⁴

Data on Relationship Between Legal Status and Wages, and Economic Activity

¹³ Jeanne Batalova et al., *DACA At The Two-Year Mark* (Washington DC: Migration Policy Institute, August 2014).

¹⁴ Batalova, *DACA at the Two-Year Mark*.

Researchers studying the economic impact of immigration reform have consistently noted that legalization increased the wages of the newly legalized and total native population. However, formalizing undocumented immigrants' productivity and remuneration is not an all or nothing proposition. Total economic benefits increase in proportion to the number of undocumented that are offered inclusion. In addition, the greater the scope of that financial, social and political inclusion, the greater the individual and total economic benefits. For example, temporary work permits induce moderate wage growth for those that received them, while permanent legalization fosters greater wage growth for the legalized, and citizenship would lead to maximum wage growth.

Researchers have debated the degree to which these various legal statuses' positively impact wages. For our analysis of administrative action in this report we have used a conservative estimate of the wage effect. The Princeton sociologists Douglas S. Massey and Kerstin Gentsch have stated that undocumented immigrants make 20% percent less than legal immigrants and that those with temporary work permits make 13% less (see table 4).¹⁵ Rather than applying the 20% legalization increase to the wages of those affected by administrative action, we have instead assumed that the wage effect will be equivalent to that of a temporary work program.

Looking back at the Immigration Reform and Control Act of 1986 (IRCA) is the logical way to begin any analysis of immigration reform's affect on the economy, and specifically on wages. In all roughly 3 million unauthorized immigrants were legalized under IRCA, and in the short term this had a positive impact on their wages and on the US economy as a whole.

Table 3
Economic Impact of Legalization

IRCA	Total Wage Increase	Male Wage Increase	Female Wage Increase
US Department of Labor	15%	13%	20%
Rivera-Batiz	n/a	8.4%	13%
Amuedo-Dorantes et al.	n/a	9.3%	2.1%

Roger G. Kramer, Audrey Singer, Shirley G. Smith. *Characteristics and Labor market Behavior of the Legalized Population Five Years Following Legalization*. Washington, DC: U.S. Department of Labor, May 1996.

Catalina Amuedo-Dorantes, Cynthia Bansak, and Steven Raphael, "Gender Differences in the Labor Market: Impact of IRCA," *American Economic Review* 97 (2) (2007): 412-416.

Francisco L. Rivera-Batiz, "Undocumented Workers in the Labor Market: An Analysis of the Earnings of Legal and Illegal Mexican Immigrants in the United States," *Journal of Population Economics* 12 (1) (1999): 91-116

A number of government agencies and economists have quantified this impact, and while their findings are not uniform they generally agree that, as a result of legalization, the wages of the

¹⁵ Douglas S. Massey and Kerstin Gentsch, "Undocumented Migration to the United States and the Wages of Mexican Immigrants," *International Migration Review* 48, no. 2 (June 2014): 482-99, doi:10.1111/imre.12065.

newly legalized increased. In a widely cited report based on surveys five years after the implementation of IRCA, US Department of Labor Survey of Legalized population reported that overall the wages of the recently legalized rose by 15% in the four to five years following legalization (see table 3).¹⁶ In his analysis of IRCA the economist Francisco Rivera-Batiz found that the wages of male IRCA beneficiaries increased 8.4 percent while their female counterparts increased by 13 percent (see table 3). He found that these increases were the direct effect of legalization and were independent of any wage increase that may have resulted from acquiring more education and further mastery of English among other factors.¹⁷ In 2007, the economists Catalina Amuedo-Dorantes, Cynthia Bansak and Stephen Raphael also found that IRCA had generated wage growth for its recipients. Controlling for broad changes in the US economy, they found that the real wages of male IRCA beneficiaries had increased by 9.3 percent; while for women the increase was 2.1 percent (see table 3).¹⁸

Legalization also incentivizes the newly legalized to invest in themselves and their community and this leads to wage as well as macroeconomic growth. Kossoudji and Cobb-Clark have shown that the wages of unauthorized workers do not reflect their skill levels because their lack of legal status pushes them into the lowest wage sectors and into the informal economy.¹⁹ Legalization encourages them to seek work that is commensurate with their skill level and to increase that skill level in order to obtain higher wages. This investment in their human capital, and the social mobility it affords, has a far-reaching and positive impact on the economy as a whole.

In order to gauge the wage impact of a diverse range of immigration reform scenarios we have relied upon the findings of Massey and Gentsch. They argue that undocumented Mexican immigrants make twenty percent less on average than those with legal status, while those with temporary work permits make thirteen percent less than those with legal status (see table 4).²⁰ Massey and Gentsch were only describing undocumented Mexican immigrants, but since this population constitutes an overwhelming plurality of the total undocumented population,²¹ we

¹⁶ Roger G. Kramer, Audrey Singer, Shirley G. Smith. *Characteristics and Labor market Behavior of the Legalized Population Five Years Following Legalization*. Washington, DC: U.S. Department of Labor, May 1996.

¹⁷ Francisco L. Rivera-Batiz, "Undocumented Workers in the Labor Market: An Analysis of the Earnings of Legal and Illegal Mexican Immigrants in the United States," *Journal of Population Economics* 12 (1) (1999): 91-116

¹⁸ Catalina Amuedo-Dorantes, Cynthia Bansak, and Steven Raphael, "Gender Differences in the Labor Market: Impact of IRCA," *American Economic Review* 97 (2) (2007): 412-416.

¹⁹ Sherrie A. Kossoudji and Deborah A. Cobb-Clark, "Coming out of the Shadows: Learning about Legal Status and Wages from the Legalized Population," *Journal of Labor Economics* 20, no. 3 (July 2002): 598-628, doi:10.1086/339611.

²⁰ Massey and Gentsch, "Undocumented Migration to the United States."

²¹ Mexican immigrants constitute 7 million of the 11.9 million undocumented living in the US according to the Pew Hispanic Center's *A Portrait of Unauthorized Immigrants in the United States*.

assume that Massey and Gentsch's figures are roughly representative of undocumented wages generally.

The impact of citizenship provides even greater economic benefits than does simple legal status (see Table 4). For example, immigrants with legal status earn significantly less than their naturalized citizen counterparts. Manuel Pastor and Justin Scoggins have shown that the citizenship naturalization of those with legal status fosters significant wage growth, which leads to economic growth generally. Specifically they found that, "after controlling for many of the characteristics that predict individual wages", there is an 8 to 11 percent "earnings premium" associated with naturalization.²²

Table 4
Income Impact by Legal Status

	% Greater Than Undocumented
Temporary Work Permit*	7%
Legal Permanent Resident*	20%
Naturalized Citizen†	29.5%

*Douglas S. Massey and Kerstin Gentsch, "Undocumented Migration to the United States and the Wages of Mexican Immigrants," *International Migration Review* 48, no. 2 (June 2014): 482–99, doi:10.1111/imre.12065.

†Manuel Pastor and Justin Scoggins, *Citizen Gain: The Economic Benefits of Naturalization for Immigrants and the Economy* (Center for the Study of Immigrant Integration, December 2012).

Obtaining legal employment authorization provides the undocumented with labor market mobility, allowing them to find work that is commiserate with their skills and to improve those skills, which subsequently leads to increased earning power (see table 4). In addition, by gaining the ability to move between jobs, the undocumented are able to maximize their productivity and income, which increases the value they add to the economy (GDP) and the taxes they pay. Increased GDP, labor income, and tax revenue result in job creation both in the public and private sectors. These positive economic outcomes increase in proportion to the number of people who are offered legal authorization to work, and the more complete their legal, social and economic inclusion is. As a result, while administrative action has a positive economic impact and granting temporary work authorization to all undocumented is even better; the impact of granting legal status to undocumented immigrants through a CIR bill would produce the best outcomes, especially if it includes a path to citizenship.

²² Manuel Pastor and Justin Scoggins, *Citizen Gain: The Economic Benefits of Naturalization for Immigrants and the Economy* (Center for the Study of Immigrant Integration, December 2012).

4. Methodologies for Estimating Economic Impacts of Immigration Policy

Researchers have used a number of methodologies to analyze the economic impact of immigration policy reforms. The optimal choice of methodologies used depends on the nature and characteristics of the policy initiative in question. In this report, we will analyze results derived from three of these methodologies. The first methodological tool, computable general equilibrium (CGE) modeling, is especially useful for predicting the dynamic effects of an economic shock over time and at the multi-sectoral level. A second tool, input output modeling (IMPLAN), is more useful for analyzing the short-term impact of a labor market policy shift within the current structure of the economy. Third, we will discuss a methodology that we have devised specifically to adjust our IMPLAN-based findings so that they better reflect the unique characteristics of immigration reforms that are directed towards childhood arrivals. Specifically, this third methodology was devised to measure the economic impact of reforms that explicitly encourage educational attainment and affect a younger demographic.

CGE Models

CGE modeling has been used extensively to predict the economic impact of comprehensive immigration reform. In an earlier report, published by the Center for American Progress (CAP) and the CATO Institute, we used CGE modeling to predict comprehensive immigration reform's impact on future immigration flows and the GDP growth that the equilibrium affects of these flows would create. In other words, CGE modeling is very good at tracking the effects of new immigrants entering the workforce and the affects of these new workers on the economic ecosystem. However, while such dynamism is one of CGE modeling's most positive attributes, in the context of this paper it presents a challenge. Here, we are attempting to compare both comprehensive immigration reform and administrative relief scenarios, and these two types of reform affect future immigration flows in very different ways. To mitigate these differences we will include CGE findings only in our discussion of CIR. We will not include CGE findings in our analysis of administrative action since this analysis focuses on the undocumented who are currently in the US, their contributions to the current US economy, and how a change in their immigration status would affect their current and future contributions.

Input-Output IMPLAN Modeling

We have based our analysis of administrative action, which would not impact future flows, and our comparison of administrative action to CIR, which would impact future flows, on IMPLAN and Census data, rather than a CGE model. IMPLAN is an input output measurement based on the current structure of the US economy, and is a more appropriate

tool for comparing administrative action and CIR scenarios, their respective impact on the economy and the role of immigrants within it. Using IMPLAN data we are able to quantify the labor income, tax contributions and productivity of undocumented immigrants and illustrate the economic impact of formalizing their role in the economy.

Educational Attainment

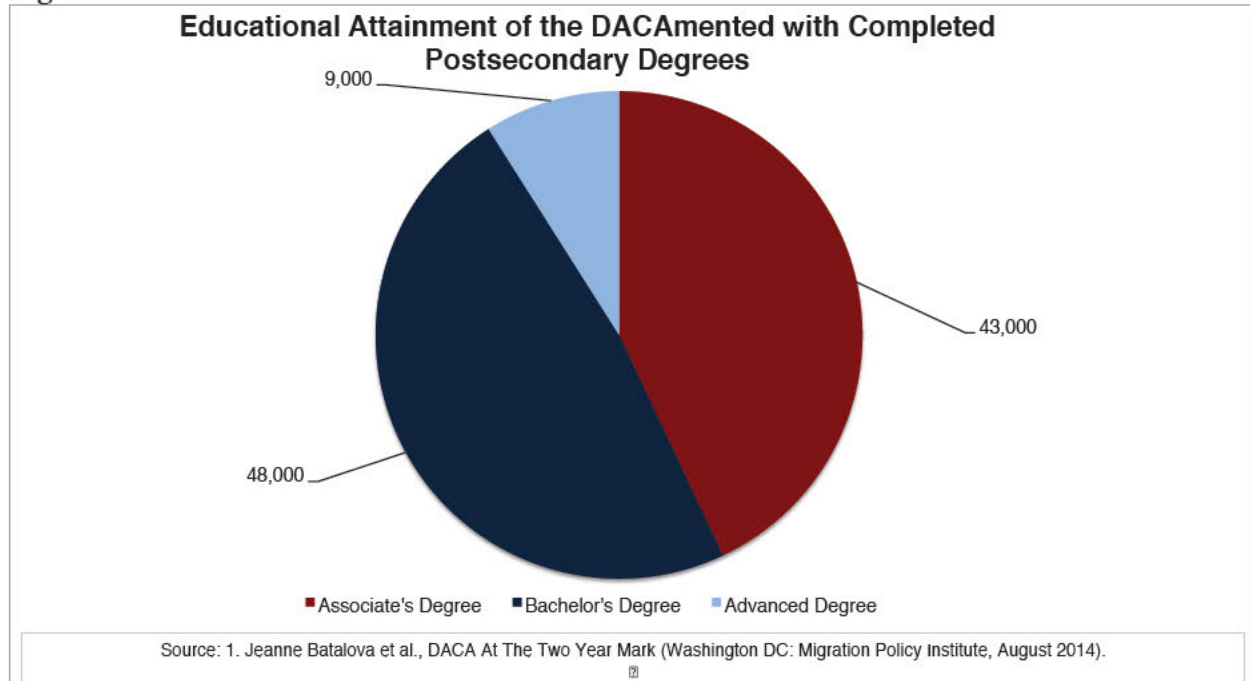
Using the IMPLAN model to analyze the economic impact of DACA presents a challenge because the IMPLAN model does not account for the relatively high level of educational attainment that DACA encourages its beneficiaries to acquire. Instead, this model assumes that DACA recipients possess the same education and skills as the general undocumented population. Because of DACA's educational requirements, DACA beneficiaries have on average a higher level of educational attainment than does the rest of the undocumented population. Therefore, DACA recipients can expect to receive a greater average income boost from legalization than can the remainder of the undocumented population. This means that an analysis based on the IMPLAN model understates the true financial impact of DACA. In light of these differences, the benefits described by an analysis based on IMPLAN should be taken as a baseline. DACA beneficiaries are able to find work that is commensurate with their education, and the program incentivizes educational attainment. Analyzing the increased earning power that this aspect of DACA affords beneficiaries leads to a more accurate representation of the program's economic impact.

In order to adjust the IMPLAN based analysis to represent the economic benefits of DACA's educational requirement we have devised a methodology that is designed to account for the characteristics of DACA, and the DACA eligible population, that are unique. First, we calculate the highest degree earned by individuals that are eligible for DACA, or have received it, and who have completed high school, a high school equivalent, or a post secondary degree program. We then project this distribution onto the population that is still enrolled in school. By multiplying the totals in each educational attainment category by the Census' median income by educational attainment data, we are able to project the single year and 40-year income of the DACA eligible population adjusted for educational attainment.

5. Results of Economic Impact Analysis

Potential DACA beneficiaries are a unique demographic within the undocumented population. They are younger than the general undocumented population and, as a result of DACA's educational requirement, are more likely to possess a higher level of educational attainment. Therefore, in order to quantify the economic impact of the program, we have developed a methodology that reflects the unique characteristics of DACA and of its potential beneficiaries (see section 4). In order to measure the increased earning potential that DACA's education requirement facilitates, we must first calculate DACA's affect on educational attainment.

Figure 3



The MPI, in their report *DACA at the Two Year Mark*, have estimated that 2.1 million childhood arrivals could potentially qualify for the benefits offered by the DACA program.²³ Within that population they distinguish between the childhood arrivals who currently meet all of the DACA program's requirements (the *immediately eligible* population), and those that are *potentially eligible*, either because they did not meet the program's education requirements or because are not yet old enough to apply.

The MPI report breaks down the *immediately eligible* population into four more categories: those that have obtained a postsecondary degree, those that have completed high school and are enrolled in some form of postsecondary education, those that have completed high school but are not enrolled in some form of postsecondary education, and those that are still enrolled in high school. Among the population that has earned some form of postsecondary degree, 43 percent earned an Associate's degree, 48 percent earned a Bachelor's degree, and 9 percent earned an

²³ Jeanne Batalova et al., *DACA At The Two-Year Mark* (Washington DC: Migration Policy Institute, August 2014).

advanced degree (see figure 3).²⁴ If we project this distribution onto the DACA eligible population who are still enrolled in either high school or a postsecondary program, as well as the population that meets all but the age requirement, and then adjust for the percent of high school graduates who are projected not to continue on with their education, we can more accurately estimate the program's long-term impact on its beneficiaries' earnings.

Table 5

Breakdown of Educational Attainment Projections

Current Level of Educational Attainment	Projected Highest Level of Educational Attainment				Total
	High School or Equivalent	Associates	Bachelors	Advanced	
Completed Post-Secondary Degree	n/a	43,000	48,000	9,000	99,000
Enrolled in Post-Secondary Program	n/a	107,283	119,758	22,455	247,000
Completed High School or Equivalent	510,000	n/a	n/a	n/a	510,000
Have Not Yet Complete Highschool	155,800	97,380	108,703	20,382	380,000
Met all Requirements but Age	253,611	94,337	105,307	19,745	473,000
Total	919,411	342,000	381,768	71,581	1,709,000

The methodology used to estimate educational attainment is described in: Raul Hinojosa, Paule Cruz Takash, and et al., *No DREAMers Left Behind: The Economic Potential of DREAM Act Beneficiaries* (Los Angeles: UCLA NAID Center, 2010).

The data used to project this educational attainment is described in: Jeanne Batalova et al., *DACA At The Two-Year Mark: A National and State Profile of Youth Eligible and Applying for Deferred Action* (Washington DC: Migration Policy Institute, August 2014).

Table 6 shows the projected educational attainment of those that currently meet DACA's education requirement, and that nearly 800,000 individuals within this population can be expected to earn some sort of post-secondary degree (see table 5). Those that do so can be expected to have a much higher income than the just over 919,000 students who are expected to complete only high school.²⁵

Table 6

²⁴ Jeanne Batalova et al., *DACA At The Two-Year Mark* (Washington DC: Migration Policy Institute, August 2014).

²⁵ While some of the DACA eligible population can be expected to drop out of high school, some of the potentially eligible population that did not meet the education requirement can be expected to re-enroll and qualify for DACA. We expect that these two cohorts to be nearly the same size, and to mitigate each others affect on the total economic impact of the program.

Projected Single and 40-Year Income

	<u>Projected Highest Level of Educational Attainment</u>				<u>Total</u>
	High School or Equivalent	Associates	Bachelors	Advanced	
Projected Educational Attainment	919,411	342,000	381,768	71,581	1,709,000
Median Income (2011-2013 ACS 3-year)	\$27,346	\$32,995	\$49,964	\$65,791	n/a
Projected Yearly Income (\$ Millions)	\$25,142	\$11,284	\$19,074	\$4,709	\$60,210
Projected 40-Year Income Total (\$ Millions)	\$1,005,688	\$451,371	\$762,985	\$188,376	\$2,408,421

The methodology used to estimate educational attainment is described in: Raul Hinojosa, Paule Cruz Takash, and et al., No DREAMers Left Behind: The Economic Potential of DREAM Act Beneficiaries (Los Angeles: UCLA NAID Center, 2010).

The data used to project this educational attainment is described in: Jeanne Batalova et al., DACA At The Two-Year Mark: A National and State Profile of Youth Eligible and Applying for Deferred Action (Washington DC: Migration Policy Institute, August 2014).

Median Income is from: US Census, ACS 3-Year Survey 2011-2013

Table 6 reveals that educational attainment has a significant impact on the future wages of the potentially eligible population (excluding those that do not meet the educational requirement). We predict that the share of this population who complete a postsecondary degree will collectively earn more than \$35 billion a year. Those who earn advanced degrees will collectively earn over \$4.7 Billion a year, while those with associates and bachelor's degrees are expected to earn a collective annual income of more than \$11.2 and \$19 billion dollars respectively. Those that are projected to earn a high school diploma or the equivalent are expected to collectively earn more than \$25.1 billion annually. In all this population will collectively earn more than \$60.2 billion annually.

The very nature of DACA not only insures that its recipients are, on average, more educated than the general undocumented population, it also insures that they are younger. DACA's age requirement means that recipients have either just entered the work force or have yet to do so. Because of this we have estimated their earnings over the course of forty years, or about the length of the average career. Table 6 shows that over forty years the cumulative earnings of this population will top \$2.4 trillion.

Table 7

Economic Impact of DACA

Labor Income Increase (in \$ millions)	\$8,098
Total Tax Increase (in \$ millions)	\$1,672
Business Taxes	\$711
Personal Taxes	\$398
Sales Taxes	\$564
Total Employment Gain	190,039
Direct Employment Gain	104,942
Indirect Employment Gain	38,489
Induced Employment Gain	46,608

The methodology used for this economic impact analysis is described in: Raul Hinojosa and Marshall Fitz. *Revitalizing the Golden State: What Legalization over Deportation Could Mean to California and Los Angeles County*. (Washington, DC: Center for American Progress, April 2011).

The source of the methodology is: IMPLAN 2009, <http://implan.com>

The population data is derived from: Batalova, Jeanne, Sarah Hooker, Randy Capps, and James D. Bachmeier. *DACA At The Two Year Mark*. Washington DC: Migration Policy Institute, August 2014.

Table 5 reveals that DACA has, and will continue to, spur job growth and create new tax revenue (see table 7). If all 1.7 million potential applicants who currently meet the education requirement enter the workforce (see table 2), their collective wages will be roughly \$8 billion dollars higher than they would have been before DACA. These increased earnings would directly generate almost 105,000 new jobs. The resulting increase in indirect employment---which is a change in employment in one industry being caused by a change in another, as a result of interaction between the two---would account for more than 38,000 new jobs. Induced employment, which is a change in employment based on changes in household spending, would increase by more than 46,000 jobs. In all the increase in labor income would generate more 106,000 new jobs. In addition, this wage growth would bring in more than \$1.6 billion dollars in new business, personal and sales tax revenue (see table 7).

Table 8

Wage Impact by DACA Beneficiary Survey

Survey	Survey Respondents	Wage Growth
NAID Center	167	246%
CHIRLA	309	176%

Two recent surveys, one conducted by the NAID center, and another by CHIRLA crystalize DACA's potential for an even greater impact on earnings. The survey conducted by the NAID Center found that the wages of 167 DACA beneficiaries increased by an average of 246 percent (see table 8). Even when counting only those who were employed before and after receiving

DACA, thereby ignoring some of the most educated respondents, this cohort still experienced a 76 percent increase in wages. Another survey, conducted by CHIRLA, found that the wages of its 309 respondents were 277 percent greater than they were before DACA (see table 8). This wage growth is much stronger than that projected by the educational attainment model. Therefore the job and tax growth projected by the educational attainment model should also be understood as a very conservative estimate. Based on this survey data, we assume that DACA's actual economic impact is much greater than any of the estimates we have proposed in this section.

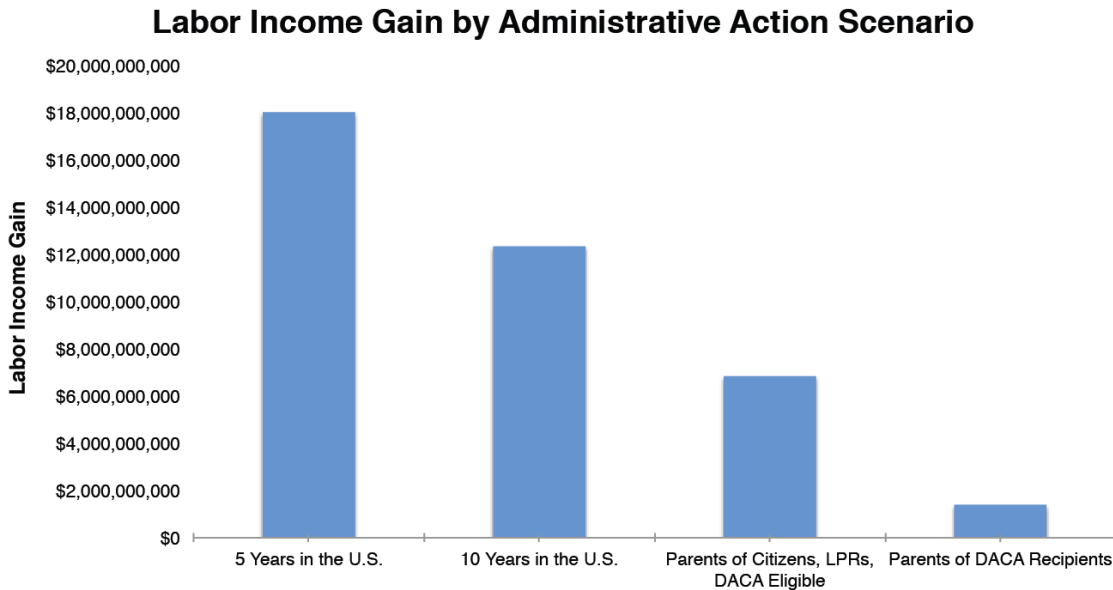
DACA's economic impact is significant, but it is less than what would be generated by far reaching administrative action, and much less than what would be generated by a comprehensive immigration reform bill. This reflects the findings of the IRCA literature, and our earlier NAID center research,²⁶ which show that the economic benefits of immigration reform increase in relation to the number of undocumented affected and the level of inclusion they are offered. While a comprehensive immigration reform bill that would extend legalization to all undocumented immigrants would have a far greater impact, this does not negate DACA's positive affect on the lives of its recipients and on the economy as a whole.

Administrative Action Results

Any upcoming administrative action will generate less wage growth per person affected than DACA because DACA affected young people, many of whom were still in school, and are therefore able to earn a relatively higher wage in the job market. However, if administrative action affects a large cohort of working age adults the economic impact could still be great. The size of the population affected is therefore of the utmost importance. The boldness of President Obama's action will determine the relative size of the economic impact in terms of labor income gain (see figure 4), increased tax revenue (see figure 5) and direct, indirect and induced job growth (see figure 6).

Figure 4

²⁶ See: Hinojosa, *The Economic Benefits* AND Raul Hinojosa, *Raising the Floor*.



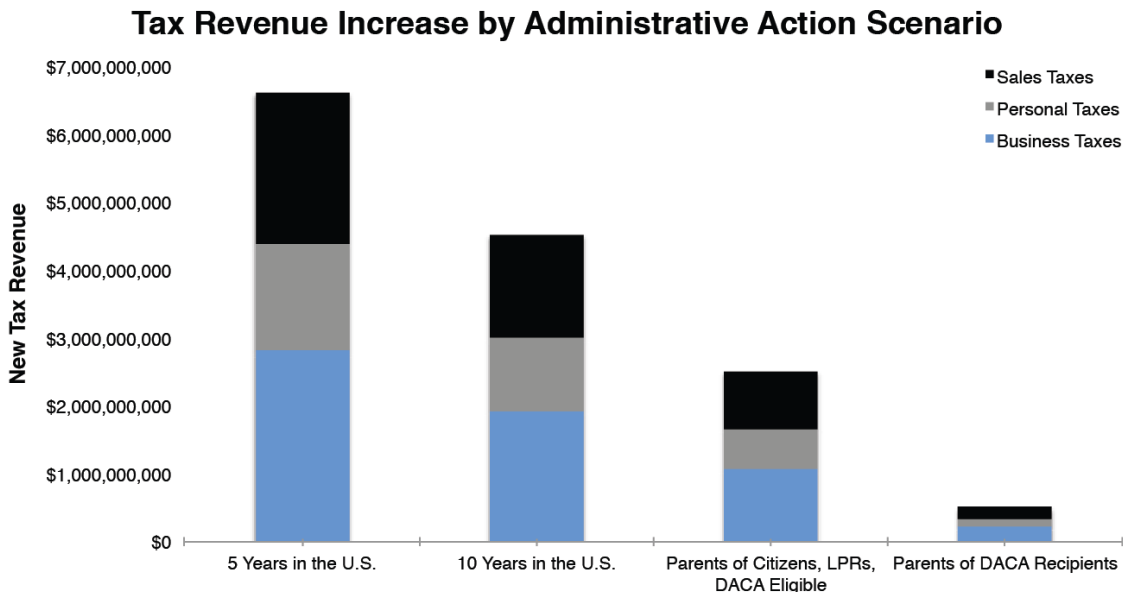
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AND Coalition for Humane Immigrant Rights of Los Angeles CHIRLA, "CHIRLA Memo to DHS Secretary," (2014).

Figure 5



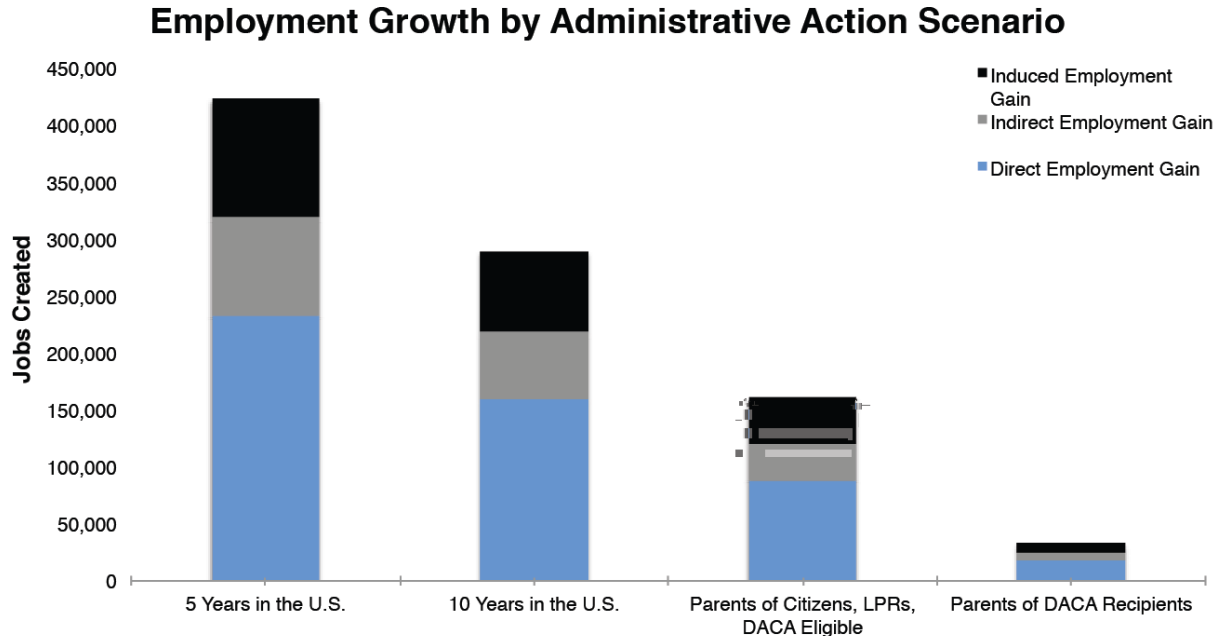
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Figure 6



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The most ambitious of the potential administrative reform scenarios, granting deferred action to the nearly 9.7 million undocumented immigrants who have been in the US for five years or more, would have the greatest economic and humanitarian impact. As Massey and Gentsch noted temporary workers earn 7% higher wages than do the undocumented.²⁷ If the affected population experienced this 7% wage increase, their collective labor income would increase by more than \$18 billion (see figure 4). This wage growth would create nearly 423,000 jobs (see figure 5) and bring in more \$6.6 billion in new taxes (see figure 6).

More cautious action on the part of the administration would still generate significant economic growth, but that this growth would be considerably less than what would have been created by a more far-reaching reform. Extending deferred action to the more than 6.6 million undocumented immigrants who have lived in the US for ten years or more would boost this population's yearly wages by more than \$12.3 billion (see figure 4). This labor income increase would generate 289,560 jobs (see figure 5) and over \$4.5 billion in new tax revenue (see figure 6).

Our analysis of the economic impact of extending deferred action to the 3.7 million parents of children that are either US citizens, LPRs or DACA eligible emphasizes the importance of bold administrative action. If these 3.7 million parents apply for and receive deferred action, their

²⁷ Massey and Gentsch, "Undocumented Migration and the Wages."

collective income will increase by \$6.8 billion (see figure 4). This wage growth would than generate 160,528 jobs (see figure 5), and more than \$2.5 million in new taxes (see figure 6). While this scenario would still generate significant economic growth, this growth could potentially be less than what DACA would generate at full enrollment.

Should the White House extend deferred action to only the parents of DACA recipients, estimated to be between 500,000 and 1,000,000, the economic outcomes would be positive if somewhat limited. For our analysis of this scenario we have split the difference between the high and low population estimates and assumed that deferred action would be extended to a population of 750,000. This scenario would generate a labor income increase of \$1.3 billion (see figure 4). Such limited wage growth would generate around 32,000 jobs (see figure 5), and just \$511 million in new taxes (see figure 6).

Comparing these four administrative action scenarios illustrates why it is critically important that the Obama administration take bold and far-reaching action. There is a wide gulf between the economic impact of the most ambitious scenario and that of the least ambitious. Extending deferred action to those that have been in the US for five years or more would generate around thirteen times the wage, employment, and tax growth than would extending deferred action only to the parents of DACA recipients. The difference between granting deferred action to undocumented that have been in the US for five years and those that have either been here for ten years, or are the parents of US citizens, LPRs, and/or DACA recipients is not as stark but it is still significant. In the case of the former comparison, granting deferred action to undocumented immigrants who have been in the country for five years or more would generate fifty percent more wage, job and tax growth than would extending it to the population that has been here for ten years or more. In the case of the latter comparison, granting deferred action to the population that has been here for five years or more would generate two and half times the wage, job and tax growth.

Comprehensive Immigration Reform

The IRCA literature suggests that the economic impact of reform increases in proportion to the number of people who are affected, and in proportion to the completeness of their legal, social and economic inclusion. This would mean that while bold and far-reaching administrative action on immigration reform would generate positive economic outcomes, these outcomes would not be as positive as those that a comprehensive immigration reform bill would generate.

Our CGE analysis of comprehensive immigration reform supports this conclusion. In an earlier report, published by the Center for American Progress (CAP) and the CATO institute, we laid out three reform scenarios. They are:

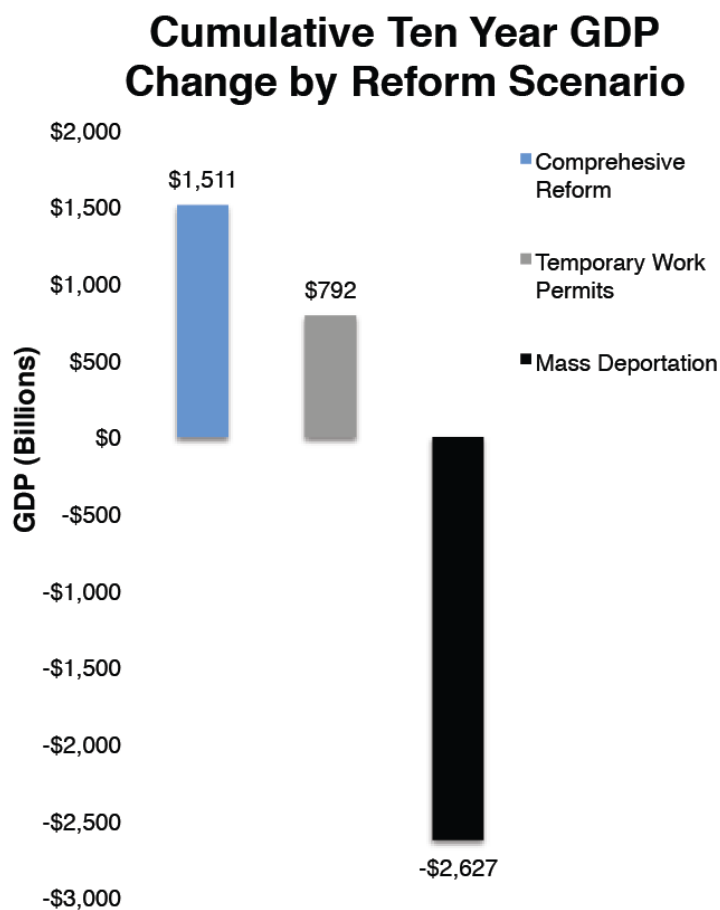
- 1) Comprehensive immigration reform that creates a pathway to legal status for

unauthorized immigrants in the United States and establishes flexible limits on permanent and temporary immigration that respond to changes in U.S. labor demand in the future.

2) A program for temporary workers only that does not include a pathway to permanent status or more flexible legal limits on permanent immigration in the future.

3) Mass deportation to expel all unauthorized immigrants and effectively seals the U.S.-Mexico border.²⁸

Figure 7



The methodology used for this analysis and the findings are described in: Raul Hinojosa, *Raising the Floor for American Workers: The Economic Benefits of Comprehensive Immigration Reform* (Center for American Progress and Immigration Policy Center, January 2010).

AND Raul Hinojosa, *The Economic Benefits of Comprehensive Immigration Reform* (CATO Institute, Winter 2012).

²⁸ See Hinojosa, *Raising the Floor* AND Hinojosa, *The Economic Benefits*.

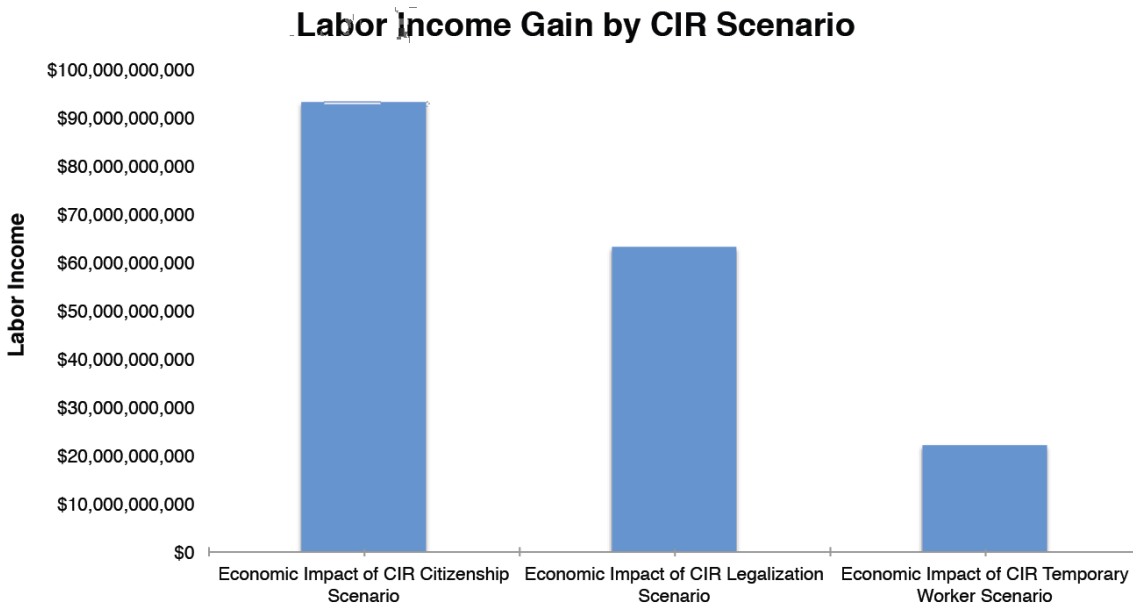
Our CGE analysis of these scenarios (published in 2010 and 2012) clearly illustrates the advantages of full legalization over a temporary worker program, and the disastrous impact of mass deportation. CIR with full legalization would generate GDP growth of \$1.5 trillion over ten years while a bill that extends temporary work authorization to all undocumented immigrants would generate only \$792 billion over the same time period (see figure 7). These findings are closely aligned with those of a Congressional Budget Office report from 2013.²⁹ On the other hand, mass deportation would cause the economy to contract by \$2.6 trillion (see figure 7). This would cripple the US economy and set off a deep and lasting depression.³⁰

Our IMPLAN based analysis of CIR reaffirms the positive economic impact of extending some form of legal status to the entire undocumented population. It also reaffirms that the scale of positive outcomes increases in proportion to the completeness of the undocumented population's social, economic, and political inclusion. To illustrate this point we have slightly altered the CIR scenarios we studied. Our IMPLAN-based analysis examined the following scenarios:

- 1) Comprehensive immigration reform that creates a pathway to legal status for unauthorized immigrants in the United States.
- 2) Comprehensive immigration reform that creates a pathway to citizenship for unauthorized immigrants in the United States.
- 3) A program for temporary workers only that does not include a pathway to permanent status or citizenship.

²⁹ Congressional Budget Office, *The Economic Impact of S. 744, the Border Security, Economic Opportunity, and Immigration Modernization Act*. (Washington, DC: June 18, 2013).

³⁰ Hinojosa, *Raising the Floor*.

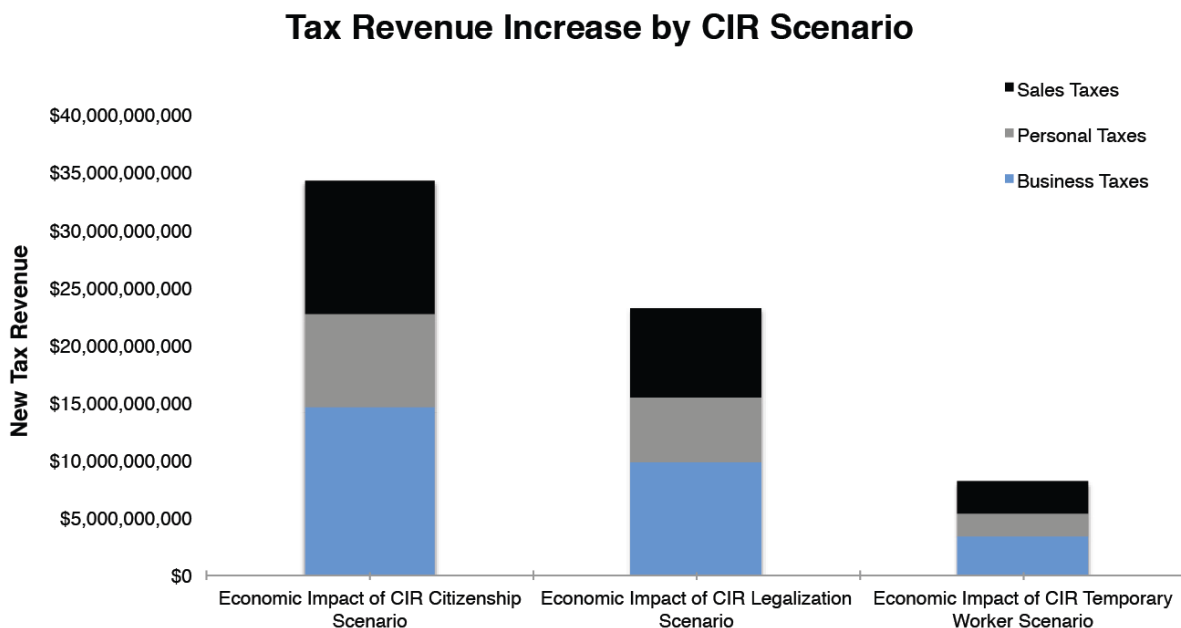
Figure 8

The methodology used for this economic impact analysis is described in: Raul Hinojosa and Marshall Fitz. *Revitalizing the Golden State: What Legalization over Deportation Could Mean to California and Los Angeles County*. (Washington, DC: Center for American Progress, April 2011).

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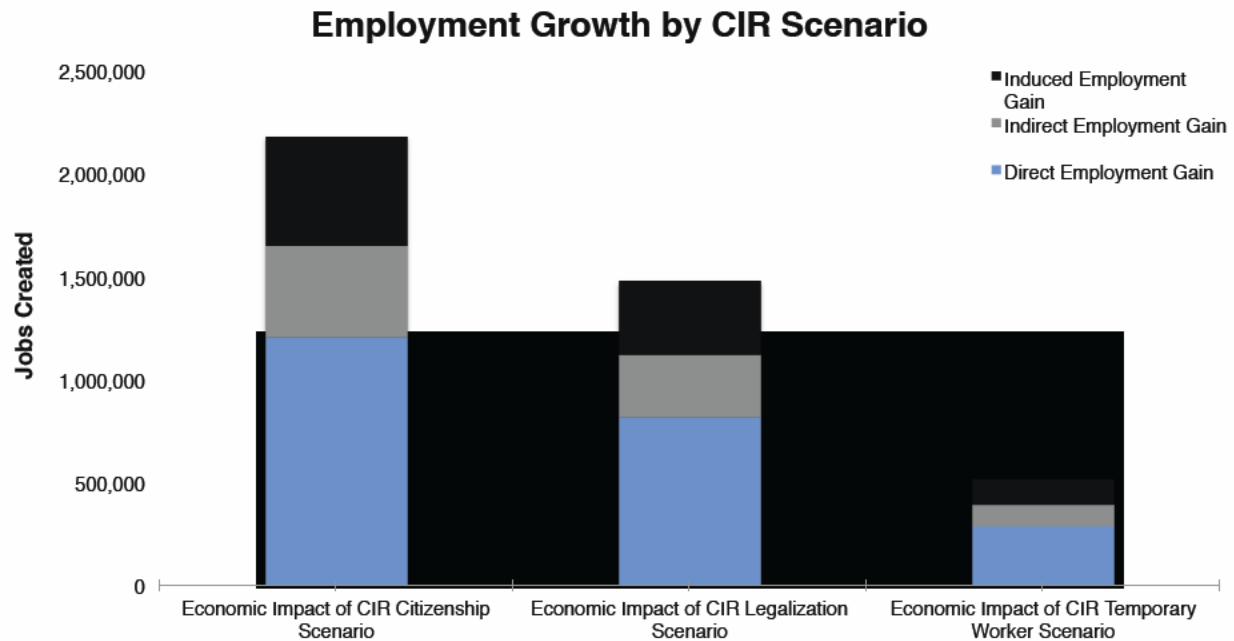
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Figure 10
31

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As Massey and Gentsch noted, immigrants with legal status earn 20% more than their undocumented counterparts, and 13% more than immigrants with temporary work permits.³² Therefore, a CIR bill that legalized the entire undocumented population would generate economic growth well in excess of that generated by administrative action, since the latter extends only temporary work permits, and does so to smaller cohort of undocumented immigrants. If the wages of the 8.3 million employed undocumented grew by twenty percent it would precipitate a \$63.19 billion increase in labor income (see figure 8). This wage growth would generate over 1,483,000 jobs nationwide (see figure 9) and a combined \$23.2 billion in new personal, business and sales taxes (see figure 10).

Comprehensive Immigration Reform with a path to Citizenship would generate the best economic outcomes both for immigrants and for the US economy. As noted earlier, Pastor and

³² Massey and Gentsch, "Undocumented Migration to the United States."

Scoggins found that naturalized citizens earn 8 to 11.5 percent more than legal immigrants.³³ If all employed undocumented immigrants eventually became naturalized citizens, they would experience a collective income increase of over \$93 billion dollars (see figure 8). These increased earnings would directly generate over 1.2 million new jobs. The resulting increase in indirect employment would account for 443,063 new jobs. Induced employment would increase by 536,522 jobs (see figure 9). This economic activity would also create over \$34.2 billion in new tax revenue (see figure 10).

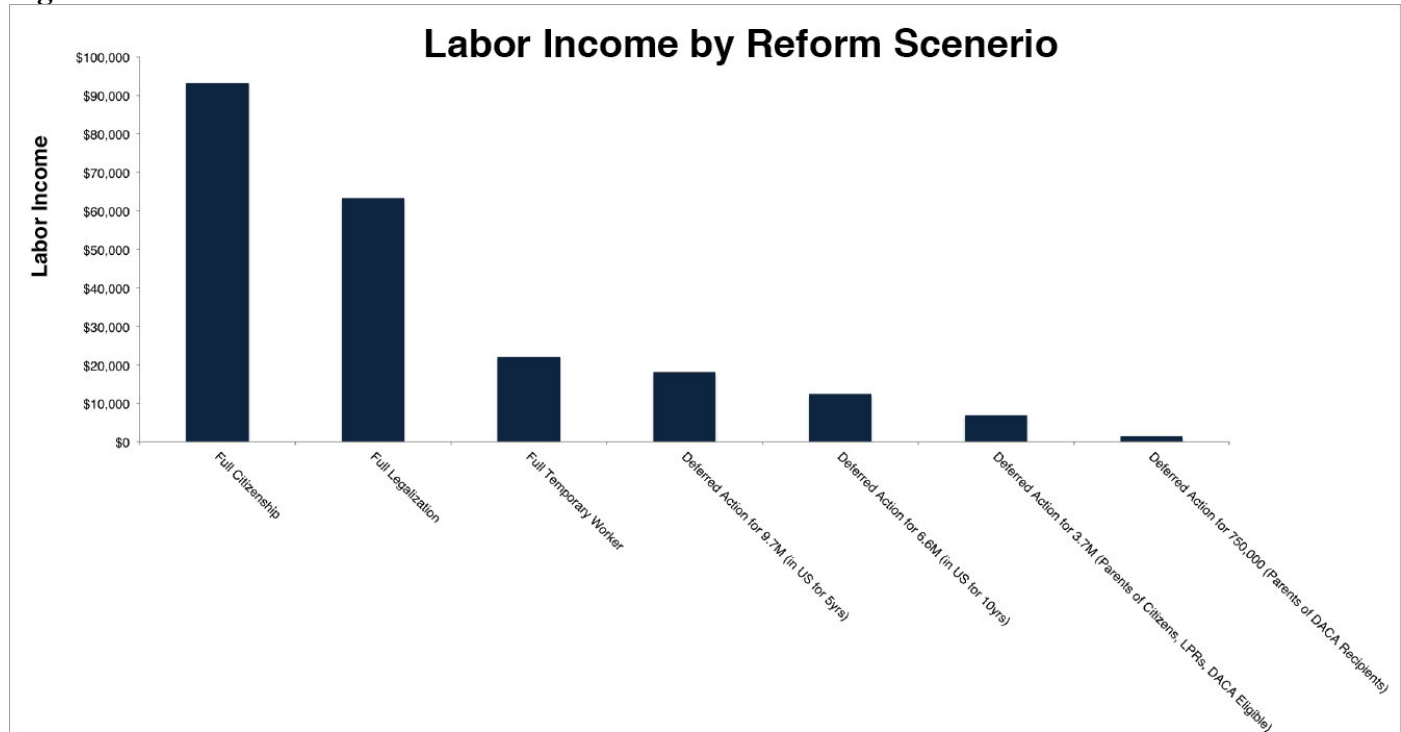
Comprehensive immigration reform that grants temporary work permits to the undocumented would also generate a significant increase in labor income, and subsequently spur job growth and create additional tax revenue, however these gains would be far less than what we see in either of the other CIR scenarios. This is significant because this scenario is the one that most closely resembles the proposals for administrative action. The gains are tempered by the fact that, again according to Massey and Gentsch, temporary workers make seven percent more than the undocumented but thirteen percent less than fully legalized immigrants.³⁴ If the 8.3 million working undocumented were to experience an average wage increase of seven percent, it would constitute a \$22.1 billion increase in overall labor income (see figure 8). This would create over 519,000 new jobs (see figure 9) and over \$8.1 billion in new taxes (see figure 10).

³³ Pastor and Scoggins, *Citizen Gain*.

³⁴ Massey and Gentsch, "Undocumented Migration to the United States"

6. Conclusion

Figure 11

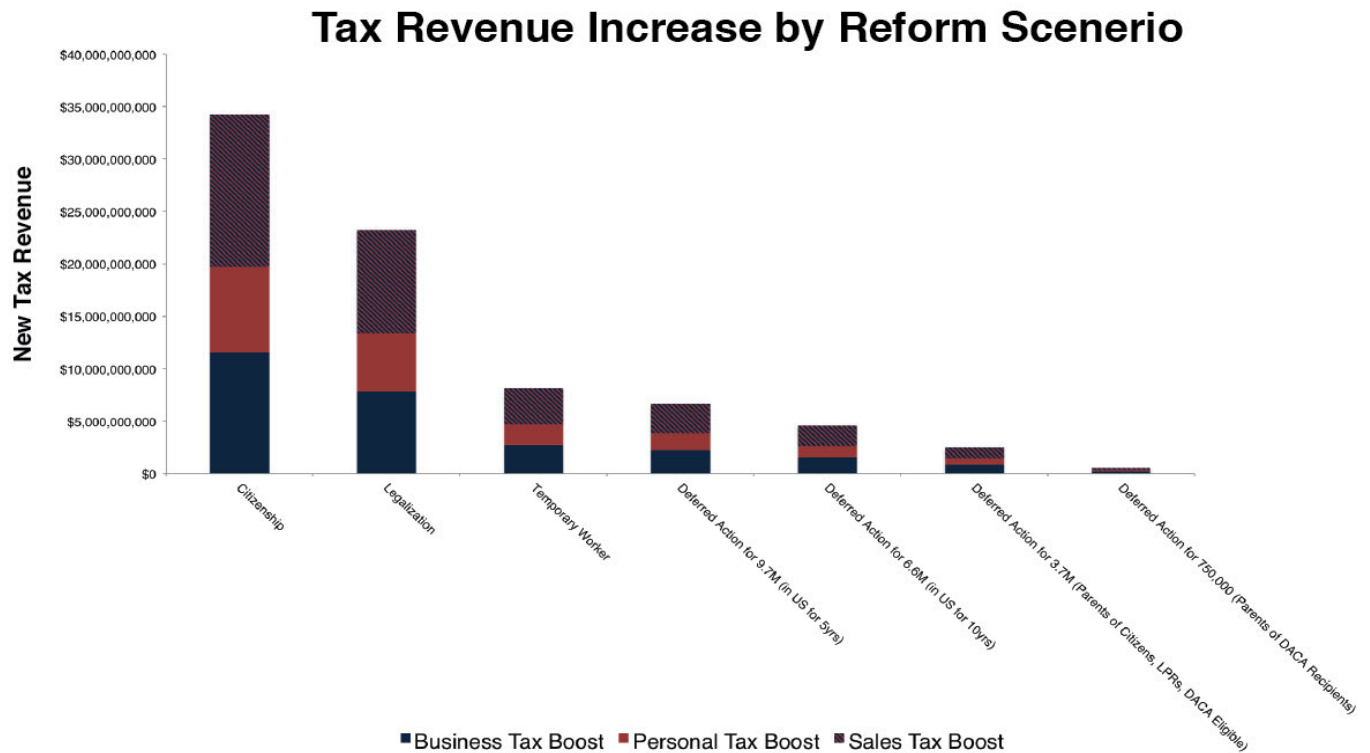


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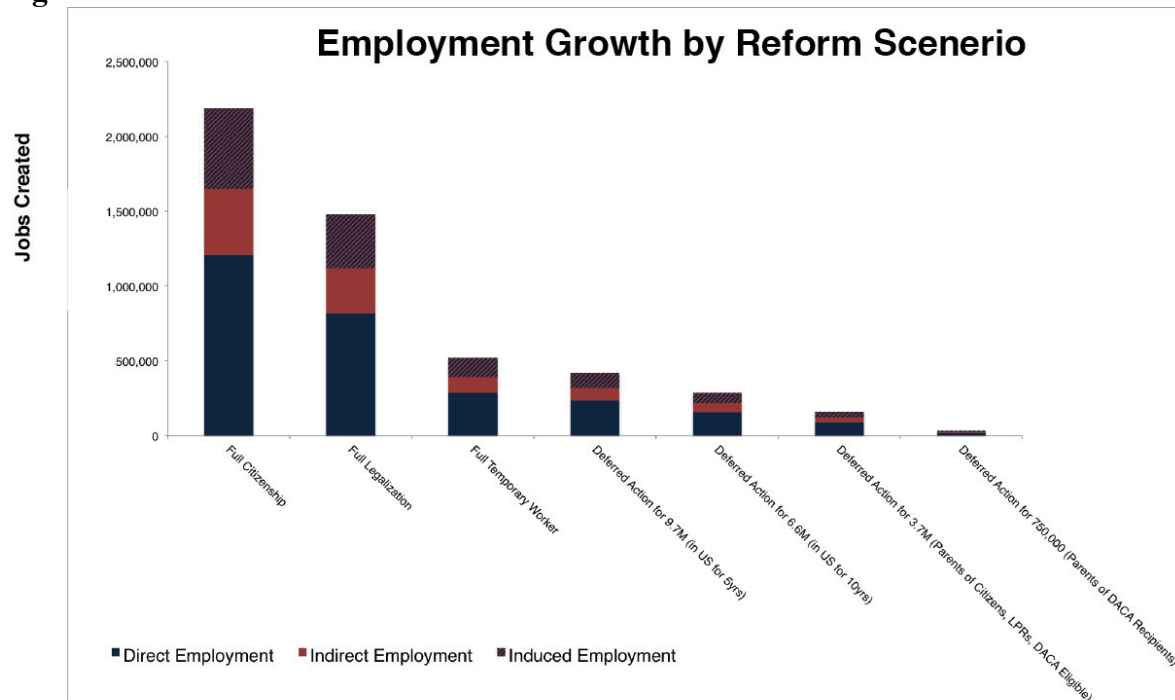
Figure 12

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